DOCUMENT RESUME

ED 367 423 JC 940 195

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TITLE TQM in Higher Education: What Does the Literature Say?
PUB DATE 94
NOTE 24p.; Paper presented at the Annual Conference on Workforce Training of the League for Innovation in the Community College (2nd, New Orleans, LA, January 30-February 2, 1994).
PUB TYPE Information Analyses (070) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Administrative Principles; Business; Change Strategies; *College Administration; Community Colleges; Educational Trends; Literature Reviews; *Management Systems; *Organizational Change; Organizational Development; *Quality Control; *Total Quality Management; Two Year Colleges

ABSTRACT

The implementation of Total Quality Management (TQM) in an organization implies a fundamental change in the way that organization functions. Therefore an examination of the adoption of the TQM philosophy necessitates a review of the most significant and latest literature on change theory and on the impact of organizational culture on change, as well as a review of the historical development of TQM. The three major figures in the TQM movement are: W. Edwards Deming, originator of the Fourteen Points of TQM; Dr. J. M. Juran, author of the Juran Trilogy; and Philip B. Crosby, who outlined the "Four Absolutes of Quality Management." Undertaking any quality program calls for sweeping organizational changes. American corporations initiated TQM programs in response to falling market shares and educational institutions followed suit. TQM programs have been undertaken at Fox Valley Technical College in Wisconsin, Lamar Community College in Colorado, and the Maricopa County Community College District in Arizona. TQM principles have been applied to classroom management and curriculum reform. A survey of 22 higher education institutions beginning TQM programs found participants frustrated by resistance to change. Factors necessary for successful TQM adoption include the development of a long-range leadership team working towards a shared vision, institutional commitment, and the need for those affected by the changes to play a role in its design. Authorities agree there is great potential for TQM in higher education if properly implemented and given sufficient time. (KP)

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ED 367 423

"TQM in Higher Education: What Does the Literature Say?"

by Elizabeth Hertzler
Presented to the League for Innovation in Community Colleges
Workforce 2000 Program
January 30 - February 2, 1994
New Orleans, Louisiana

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"TQM IN HIGHER EDUCATION: WHAT DOES THE LITERATURE SAY?"

Introduction

The implementation of Total Quality Management (TQM) in an organization implies ". . . a fundamental change in how the organization functions." (Heilpern & Nadler, 1992, p. 142). Since this is the case, an examination of the adoption of the TQM philosophy in an organization necessitates a review of the most significant and latest literature on change theory (particularly in education) and work on the impact of organizational culture on change, as well as a review of the historical development of TQM itself.

Change Theory/Organizational Culture Theory

In 1978 L. E. Greiner observed

> Today many top managers are attempting to introduce sweeping and basic changes in the behavior and practices of the supervisors and the subordinates throughout their organizations. Whereas only a few years ago the target of organization change was limited to a small work group or a single department, especially at lower levels, the focus is now converging on the organization as a whole, reaching out to include many divisions and levels at once, and even the top managers themselves. There is a critical need at this time to understand better this complex process, especially in terms of which approaches lead to successful changes and which actions fail to achieve the desired results. (p. 336)

Greiner noted several critical issues on the topic of organizational change: (a) that it is a complex process; (b) that change for the organization as a whole requires a different approach than change for an individual; and (c) that careful study is required to help increase the

likelihood of successful change. One of the characteristics he pointed out about the change process was the range of options in terms of a power continuum from change by unilateral action at one end of the spectrum to shared decision making in the middle to delegation of change at the other end. Greiner's studies showed that the shared power approach produced the most successful results of the three methodologies.

Greiner identified several of the key concepts in change theory; i.e., that change is a process and not an event and that successful change is developmental and sequential.

Kurt Lewin, one of the seminal research and model builders in the field of change theory, postulated in 1951, "A successful change includes . . . three aspects: unfreezing (if necessary) the present level L 1, moving to the new level L 2, and freezing group life on the new level. Since any level is determined by a force field, permanency implies that the new force field is made relatively secure against change" (p. 228). Lewin observed that change required a break with the status quo ("unfreezing"). After the break, the organization moved from the current level (L 1) to a new level (L 2) and there established a new status quo. The model of a force field was built on the concept that an organization (or individual) tended to an equilibrium which was perpetuated by the presence of two equal forces: forces which pushed toward change (driving forces) and forces which worked against change (restraining forces). In this model, change came about by a break in the equilibrium, due to a shift in the relative strength of the driving and restraining forces. In further studies Lewin observed that an example of unfreezing could be a management edict to institute an organization-wide change of some kind, strengthening the driving forces toward change. The

employees would go along with the change, but establishing the new status quo could be problematic because there could be a long-term reaction against the edict (either subtle or overt) which would re-strengthen the restraining forces and produce a return to the former equilibrium. Because action produces reaction, Lewin recommended that those contemplating change loosen restraining forces rather than increase driving forces (1952).

R. G. Owens (1991) corroborated Lewin's recommendation for diminishing the restraining forces rather than increasing driving forces in his discussion on change in educational institutions:

> In school situations generally, it is likely to be more effective to bring the restraining forces into the open as legitimate in the process of change. By creating a culture in which feelings can be expressed instead of secretly harbored, by opening communication and valuing the right to question and challenge, and by helping those who would oppose the forces of change to examine and deal with the concerns that cause their resistance, it is likely that (1) unforeseen probable consequences of proposed actions would be brought into the planning process and--perhaps more important--(2) the level of resistance will be diminished. (p. 233)

Lewin also studied the effect of group change as distinguished from change in an individual and observed that change in a group setting was more powerful and long-lasting than change in any one individual: ". . . It is usually easier to change individuals formed into a group than to change any one of them separately. As long as group values are unchanged the individual will resist changes more strongly the further he is to depart from group standards" (1951, p. 228).

Tetenbaum and Mulkeen (1989) have cautioned that the role of the individual is a key one in any change effort and needs to be honored:

> If change is to occur . . . , its leaders need to understand not only that individuals generate their own constructions of reality, but also that act to protect these constructs. Aparticularly vulnerable construct is that of self -- all people, leaders as well as subordinates, strive to avoid the anxiety that signals a threat to the self. (p. 340)

Simultaneously, these authors recommended

> . . . an approach to management which, unlike the structural approach, assumes that people and the world are not rational. Incrementalism is one such approach. It understands that changes come about through hundreds of little steps, each of which is a small, reasonable response to pressures. (p.346)

The role of organizational culture is an integral one in the examination of change, due at least in part to the effects of group standards on individual behavior identified by Lewin and the importance of the culture on all other aspects of the organization. Blanchard and Blackwood observed

> How well an organization can adapt to change depends on its culture. Organizational culture is complex and often subtle, but it is extremely important that the change manager understands it in order to determine an effective approach to change intervention. An organization's culture is a system of shared values and beliefs which concern its people, structures, and control systems and which produce the norms for the organization's behavior. (1990, p. 61)

These authors referred to the work of Lewin as they discussed the change process as unfreezing the status quo; initiating the change as a result of which new behaviors are acquired to move the system into a new state; and refreezing into a new steady state. Blanchard and Blackwood also noted, "The tendency to return to the previous state points up the importance of refreezing (*institutionalizing*) [italics authors'] following change implementation and the need for continued monitoring over time to ensure

that the change state does not weaken or fail" (1990, p. 84). It was not sufficient that the change manager understood the culture of the organization undergoing the innovation; successful change projects track the change over time because of the acknowledgment of the tendency Lewin noted that organizations will drift back to previous norms if the new behaviors are not specifically reinforced over time.

Another model of the nature of change was proposed by Argyris and Schon in 1978 as they observed the complexity of the issues facing American society in general and organizations in specific. In their judgment, this complexity called for a long-term, systemic approach to internal and external problems and forces. They counseled that what the situation demanded was organizational learning, not a traditional change model:

> There has probably never been a time in our history when members, managers, and students of organizations were so united on the importance of organizational learning. Costs of health care, sanitation, police, housing, education, and welfare have risen precipitously . . . Corporations have found themselves constrained by a web of increasingly stringent regulations for environmental protection and consumer safety, at the same time that we are more sensitive to the need for jobs and for economic growth . . . We are also beginning to notice that there is nothing more problematic than solutions. Some of our most agonizing problems have been triggered by our solutions to slum eradication and urban renewal, by the success of the Labor Movement in achieving income security for workers, by rising expectations consequent to our economic growth, by the unwanted consequences of technological innovations. We begin to suspect that there is no stable state awaiting us over the horizon. . . As a result, our organizations live in economic, political, and technological environments which are predictably unstable. The requirement for organizational learning is not an occasional, sporadic

> phenomenon, but is continuous and endemic to our society. (1978, pp. 8-9)

It would seem fair to say that contemporary conditions are similar as those described by Argyris and Schon (1978), which would mean that the need for organizational learning is still present.

Peter Senge expanded the model of organizational learning in his book on the learning organization (1990) because he felt that previous work on organizational learning had not sufficiently expanded the concept of learning. His work presented five components of the learning organization (which he labelled "five disciplines"):

1. *Building Shared Vision* [italics author's]--the practice of unearthing shared "pictures of the future" that foster genuine commitment.
2. *Personal Mastery* [italics author's]--the skill of continually clarifying and deepening our personal vision.
3. *Mental Models* [italics author's]--the ability to unearth our internal pictures of the world, to scrutinize them, and to make them open to the influence of others.
4. *Team Learning* [italics author's]--the capacity to 'think together' which is gained by mastering the practice of dialogue and discussion.
5. *Systems Thinking* [italics author's]--the discipline that integrates the others, fusing them into a coherent body of theory and practice. (1990, p. 1)

According to Senge, the ". . . learning organizations are organizations that are continually enhancing their capacity to create" (1990, p. 2). The increase in capacity is due to power of team learning: ". . . groups of people can potentially operate in ways that are fundamentally more generative, empowering, and inspiring than the ways in which we normally operate" (1990, p. 2).

Historical Development of Total Quality Management

W. Edwards Deming, originator of the Fourteen Points of Total Quality Management, has explained why he was asked to present Total Quality Management principles to Japanese management before he was asked to do so in this country:

> American style of management rode along unchallenged between 1950 and 1968, when American-manufactured products held the market. Anyone anywhere in the world was lucky for the privilege to buy an American product. By 1968, forces of competition could no longer be ignored. What had happened in Japan [adoption of TQM] could have happened in America, but did not. (1986, p. 27)

Dr. Deming explained that the rationale for the Fourteen Points is based on the need for a systematic and organization-wide approach:

> The system is such that almost nobody can do his best. You have to know what to do, *then* [italics author's] do your best. Not just with what seem to be brilliant ideas, but with a system of improvement. The system of improvement consists of the Fourteen Points. (Walton, 1986, p. 32)

In his discussion of the Fourteen Points, Dr. Deming noted their widespread applicability:

> The 14 points apply anywhere, to small organizations as well as to large ones, to the service industry as well as to manufacturing. They apply to a division within a company.
>
> 1. Create constancy of purpose toward improvement of product and service, with the aim to become competitive and to stay in business, and to provide jobs.
> 2. Adopt the new philosophy...Western management must awaken to the challenge, must learn their responsibilities . . .

3. Cease dependence on inspection to achieve quality. Eliminate the need for inspection . . . by building quality into the product in the first place.
4. End the practice of awarding business on the basis of price tag. Instead minimize total cost.
5. Improve constantly and forever the system of production and service, to improve quality and productivity, and thus constantly decrease costs.
6. Institute training on the job.
7. Institute leadership . . . The aim of supervision should be to help people and machines and gadgets to do a better job . . .
8. Drive out fear, so that everyone may work effectively for the same company . . .
9. Break down barriers between departments People in research, design, sales, and production must work as a team . . .
10. Eliminate slogans, exhortations, and targets for the work force asking for zero defects and new levels of productivity. Such exhortations only create adversarial relationships, as the bulk of the causes of low productivity belong to the system . . .
11. a. Eliminate work standards (quotas) on the factory floor. Substitute leadership.
11. b. Eliminate management by objective . . .
12. a. Remove barriers that rob the hourly worker of his right to pride of workmanship . . .
12. b. Remove barriers that rob people in management and in engineering of their right to pride of workmanship.
13. Institute a vigorous program of education and self-improvement.
14. Put everybody in the company to work to accomplish the transformation. The transformation is everybody's job. (1986, pp. 23-24)

As Dr. Deming noted, the Fourteen Points can apply to any organization because they are based on a philosophy and process that applies to any operation with a supplier and a customer (however defined).

Another author and theoretician on planning for quality is Dr. J. M. Juran. Dr. Juran (as did Dr. Deming) had noted the decline in market share

for certain American products and attributed that loss: ". . . to quality, in two respects: The imports had quality features that were perceived as better meeting customer needs. The imports did not fail in service as often as the domestic products." Juran's response to the quality issue was to develop the Juran Trilogy: quality planning, quality control, and quality improvement. As part of his quality program, Juran also addressed the issue of organizational culture: "Every company is . . . a human society . . . These societies differ in their perceptions and therefore evolve cultural patterns that differ one from another. However, each exhibits cultural resistance to threats to its cultural values" (1992, p. 429). Juran advised against mandating change because management edicts can produce a reaction against the proposed change (as predicted by Lewin above). Instead he advised managers to study behavioral scientists for those practices which will motivate participation in the change process in a positive way.

The third major figure in the quality movement is Philip B. Crosby. He outlined the

"Four Absolutes of Quality Management":

1. *Quality means conformance to requirements . . .*
2. *Quality comes from prevention . . .*
3. *Quality performance standard is Zero Defects (or defect-free) . . .*
4. *Quality measurement is the Price of Nonconformance . . .*

His plan for continuous improvement in an organization called for three phases to be undertaken by management:

1. The conviction by senior managers that they have had enough of quality being a problem and want to turn it into an asset.
2. The commitment that they will understand and implement the Four Absolutes of Quality Management. They have to accept the responsibility

for making this happen. The quality department cannot do it.

3. The conversion to that way of thinking on a permanent basis. This replaces the conventional wisdom that caused the problem in the first place. (1990, pp.35-36)

All three (Deming, Juran, and Crosby) have a slightly different interpretation of continuous improvement and quality, but they all agree that undertaking any quality program calls for a sweeping change in the organization contemplating such an innovation. Further, they caution that the change to quality processes requires commitment of time, resources (monetary and human), and a new corporate philosophy.

Implementation of TQM

The American corporate sector began to adopt Total Quality Management programs in response to world-wide competition and a slip in its market share (see comments by Deming above). As Heilpern and Nadler noted:

> Increasingly, new competitors have appeared in almost all categories of products and services. Indeed, the increasing globalization of business enterprises has reduced barriers to entry and opened up borders dramatically. As a result, customer expectations have been raised and new requirements established. (1992, p. 138)

Educational institutions have turned to Total Quality Management for many of the same reasons that American businesses have instituted quality programs.

> Faced with soaring operating costs and persistent public demands for accountability, a growing number of colleges and universities are turning to TQM--and its principles of customer satisfaction, teamwork, and employee empowerment--as a tool

> to improve how institutions are managed and, in some cases, how classes themselves are run. (Mangan, 1992, p. A25)

Others have reported on the same trend toward TQM in education. Maurice Holt has recently noted the applicability of Total Quality Management in education in light of the national push for educational reform and outcomes-based assessment. Comparing scientific management (Taylor) and TQM (Deming), Holt pointed out

> . . . the Deming doctrine of generating quality by building it into the process, rather than by inspecting defects out of the end product [Taylor], has been widely adopted in Japan and has contributed greatly to the Japanese economic miracle . . . I want to . . . argue that Deming's concepts of quality and improvement . . . embody a philosophy of action with implications that challenge current practice in both administration and curriculum. (1993, pp. 382-383)

Rhodes (1992) and Glasser (1990) also spoke about the potential for improvement in education from use of TQM principles. Noting that TQM was regarded by some in both the corporate and educational worlds as being unsuccessful, Schmoker and Wilson wrote

> If TQM seems to be failing in some settings, the failure can be attributed to what employees in private industry not infrequently tell us: management has adopted the trappings of Deming's work without being willing to redistribute power and place unprecedented levels of trust in employees. (1993, p. 390)

Other scholars and writers have spoken specifically to the relevance of the quality movement to higher education, including Marchese (1991, 1992, 1993); Brigham (1993); Ewell (1993); Vavrek (1993); Masters and Leiker (1992); Sherr and Lozier (1991); and Carothers (1992). Dr. Carothers, president of the University of Rhode Island where TQM was instituted two years ago, has said that

> . . . I have come to believe that introducing lessons learned in the TQM movement to the academy is not to bring an alien presence into our culture. Rather, it is to give form and clarity to values that are already very much a part of our community. (1992, p. 7)

Rick Williamson has written about the application of quality principles in the community college setting. "Only those institutions willing to lead the way in search of higher quality will be able to meet the increased needs of their students and of the world" (1993, p. 85).

Examples of Total Quality Management in Educational Settings

The literature contains a myriad of programs and educational institutions incorporating Total Quality Management principles. The applications range from elementary settings (McLeod, Spencer, and Hairston, describing the successful experience of the Petersburg, Virginia, Public Schools, 1992) to graduate school (Greenbaum of the Kellogg Graduate School of Management at Northwestern University talking about the fact that TQM in practice required forfeiting privileges for some and the need for TQM curriculum, 1993). John Charles Partin studied the use of TQM in the two-year colleges of Texas by surveying faculty and administrators and found that administrators reported a greater degree of implementation than faculty at the same institution (1992). Ellen Earle Chaffee and Lawrence A. Sherr produced a report on TQM in higher education (1992) which described the quality improvement process in terms of the organizational behaviors and attitudes required for successful implementation as well as a rationale for the use of TQM in postsecondary education.

Descriptions of various universities which have introduced TQM (either institution-wide or in specific programs) include those of Sullivan (University of St. Thomas, 1992); Marchese (1992 interview at the University of Pennsylvania); Seymour (Georgia Technical University, Pennsylvania State University, and the University of Maryland, 1993); and Coate (Oregon State University, 1991). All the institutions in the studies had decided to use quality programs as a response to some external force, either sustained enrollment decline and decreasing budgets or a corporate grant. There are a range of experiences in terms of relative success and recommendations for other institutions contemplating TQM.

The community college sector has also had TQM pioneers (see Partin above), one of whom decided to introduce a quality program in 1985: Fox Valley Technical College in Wisconsin. Included in a report on that process (Spanbauer, 1992) are descriptions of the details on the initial planning stage to the use of teams across the institution. Problems which were encountered as well as successes are presented. Another community college experience with quality is that of Lamar Community College in Colorado (Lane, 1992). As with other institution-wide programs, Lane stressed the need to recognize the interrelatedness of campus departments and the consequent need to alter the organizational culture.

A TQM program in a multi-campus district, that of the Maricopa County Community College District in Phoenix, Arizona, was described by Assar (1993). In this case, one of the member institutions (Rio Salado Community College) had instituted TQM training for its employees two years previously. The success of that program played a significant role in the

district decision to adopt a "Quantum Quality agenda" in response to budget constraints and enrollment declines (as with other institutions motivated to change).

Specific programs using quality processes have been the subject of several authors. Descriptions include those of TQM tools for successful meetings (Koberna & Walter, 1993); selection of processes to be addressed by improvement teams (Walter, 1993); quality project documentation (Walter, 1993), institutional research operations (Heverly, 1991; McLaughlin & Snyder, 1992; Teeter & Lozier, 1991); and admissions (Nagy, Cotter, Erdman, Koch, Ramer, Roberts, & Wiley, 1993). TQM tools and techniques in campus settings have been described: improvement of student information publications (Frost & Beach, 1992) and benchmarking to improve quality and cut cost (Shafer & Coate, 1992). Ewell connected TQM and assessment as two movements which have received national scrutiny and attracted support and criticism (1991). TQM principles and processes have also been utilized to affect organizational culture, as described by the president of Rio Salado Community College (interview with Cornesky, 1993, pp. 2-3): ". . . we've been doing a lot of work in driving fear out of the workplace. In addition, we're looking for a way to restructure the rewards and recognition system. We're just starting to dabble in employee evaluation systems."

Various viewpoints on Total Quality Management in the classroom have been presented by Cornesky (1993), Cross (1993), Gartner (1993), and Zilinsky (in Needham, 1992). The theoretical base for TQM classroom management was outlined by Cornesky. Gartner described his experience with instituting TQM techniques in his classes and found them to be highly

motivating for the students. Zilinsky also reported on the use of TQM principles in the classroom as well as a separate curriculum. Cross described the potential for connection between TQM and the Classroom Assessment movement: "Merging the management-oriented TQM with the academically oriented Classroom Assessment offers an opportunity to address the quality challenge that is the most serious and pervasive challenge to education in the years ahead" (1993, p. 17).

TQM principles in curricular reform were presented by Zemsky, Massy, and Oedel (1993):

> Higher eduction's customers are now demanding curricular designs that reflect changing priorities--including lower costs and better quality control--as well as new incentives that better balance the rewards for teaching and research. Faculty are being asked to focus on the context as well as the content of the educational experience they provide to their students. (p. 57-58)

Challenges for TQM Implementation/Application

Fred R. Bleakley, a reporter for The Wall Street Journal, pointed out the potential drawbacks to the adoption of Total Quality Management (as well as other new management techniques):

> . . . while these approaches may have promised more motivated work forces and greater productivity, the results often fall far short. When this happens, companies find they must sharply modify, abandon or find antidotes to programs that bring sweeping changes to organizational and human-resources management.

He went on to note that "Total quality management, which calls on employee teams to devise ways of improving their own productivity, received the highest satisfaction levels . . . [60%]" (1993, p.1).

Tracy E. Benson also studied corporate satisfaction with TQM and concluded:

> A large contingent of U. S. business writers would have managers believe that Total Quality Management (TQM) is all but dead and buried. But to hear it from those in the trenches, TQM is still in its infancy. And the prognosis from these people is that both as a philosophy and a long-term business strategy, TQM is here to stay . . . It's no wonder that TQM has been getting a bad rap lately, because "failures" generate a lot of attention. But, in most cases, failed quality programs are not the result of failed *quality* [italics author's]. This latest reading indicates that many of these infamous bad-news cases are instead the result of the way TQM has been applied. (1993, p. 16)

Others have also studied and written about implementation of TQM (Booher & Fender, 1990; Ciampa, 1992; Dawson, 1992; Hiam, 1992; Olian & Rynes, 1992; Weaver, 1992; Zemke, 1992) and have postulated a variety of factors required for success. Booher and Fender; Ciampa; Weaver; and Olian and Rynes noted the need for a total cultural change: "The goals of total quality can be achieved only if organizations entirely reform their cultures" (Olian & Rynes, 1992, p. 303). Zemke and Hiam emphasized the importance of appropriate training for TQM implementation which will be long-term.

Concerns have been expressed about TQM in higher education: ". . . Total Quality is complicated, important, difficult to implement, and far from figured out" (Marchese, 1993, p.10). Brigham (1993) and Ewell (1993) also have cautioned against regarding TQM as a magic pill which will quickly cure all of higher education's ills. Brigham counseled, "Before higher education

proceeds further with its infatuation with TQM, it will do well to ponder the mistakes and accomplishments of previous practitioners, thereby increasing the odds of benefitting from the intelligence and holism of TQM" (1993, p. 42).

The culture of higher education presents a potential barrier to the adoption of TQM principles in the academy. Winter noted

> Perhaps the most significant barrier to TQM in colleges and universities is that these organizations view themselves as participatory. Since they are structured both in a hierarchical and matrix form, they assume that faculty input is present and effective. Local governance structures such as faculty, staff, and student senates, institutional, college, and departmental committees, and task forces provide a panorama of inputs that appears to be participatory. Even more significant, administrators perceive that their operating styles encourage participation. (1991, p. 58)

Matthews observed that higher education has seen examples of successful implementation of TQM in the curriculum and institutional operations.

> However, in the other two areas -- the overall direction of the institution and the functional areas (primarily teaching and research)--it appears that far less progress has been made... It appears that there are many major barriers to its utilization in these areas. (1993, p.102)

In a report on a survey of twenty-two institutions of higher education which had begun TQM programs, Seymour found

> A significant portion of survey participants are frustrated by the resistance to change on their campuses. Of course, there is the standard resistance from the old guard and 'not invented here' attitudes. According to many, however, resistance is a direct function of a perceived loss of control. (1991, p.13)

Factors Necessary for Successful TQM Adoption

Myron Tribus has written and spoken extensively about quality principles in education. He cautioned that, "In transferring the methods from industry to academia, however, there are some differences which need to be kept in mind. Education is education; not an assembly line or a supermarket . . . The principles remain, the specifics of application are different . . . "(1993, p. 12). Burgdorf (1992) has written: "For a college to be customer focused and function as a system, driven by continuous improvement of processes by reducing variation in those processes, leadership must be redefined in a Total Quality organization." He also observed, "Total Quality redefines the teacher as a leader, coach, and helper--a person who listens and stimulates intrinsic motivation on the part of a learner to experience the joy of learning" (1992, p. 3). In a report on TQM at Virginia Polytechnic Institute and State University, the authors urged

> TQM must begin with the development of the leadership team working toward a shared vision, shared values, and a repertoire of leadership skills. Change will not occur immediately either in personnel or in the institutional culture. Leadership development must be a value and a process that evolves within the institution over a period of five to ten years. (Leffel, Robinson, Harshberger, Krallman, & Frary, 1991, pp. 70-71)

In a report on 10 schools with some sort of interest in TQM, it was noted

> At this point, based on my study of these 10 institutions, my conclusion is that the success of TQM is related to the level of commitment by the college president and senior administrators. If TQM is to move beyond the fad stage and take firm hold, I believe two conditions are necessary: college presidents must perceive TQM as a means to solve major problems facing their institutions; and senior academic affairs administrators and faculty must believe TQM is related to their concerns and interests. (Entin, 1993, p. 31)

Delaware Country Community College instituted a TQM program as a response to the challenges facing the institution. In retrospect those staff members involved in the implementation observed, "the . . . team underestimated the resistance of people to fundamental change. Earlier progress could have been greater if the agents of this change had known what to expect" (DeCosmo, Parker, & Heverly, 1991, p. 21). Barbara K. Curry has written on those factors which promote higher education change projects which are successful in the long term. She pointed out

> The very independence and individualism that campuses embody make change difficult. Faculty, students, and staff who are often celebrated for their ability to be analytical and critical, for example, set rigorous standards for innovations that would change their community dramatically. (1992, p. 47)

Her observations of "enduring" change in higher education led her to conclude that "Learning and change are aligned" (p. 51). Referring to work of Argyris and others on organizational learning (see above), Curry also reminded her readers

> In the academy, for, example, because of its structure of governance and generally collaborative approach to management, its members expect that, at the very least, those who are likely to be affected by change ought to play a role in its design . . . (p. 56)

Summary

Implementation of Total Quality Management is a complex process influenced by factors such as those described by theoretical frameworks such as change theory, organizational culture theory, and organizational learning theory. The three theoretical areas in the literature reviewed are congruent

with each other and Total Quality Management principles. Change theory emphasizes the fact that any change is a process, not a single event. This is significant for several reasons, one of which is that change managers need to appreciate the long-term nature of their undertaking. Another feature mentioned by the change theoreticians whose work has been reviewed is that change is prompted by a disruption of the status quo, a characteristic explained by Lewin in his work on equilibrium. The disruption can be a negative external event (e.g., declining enrollments, budget cutbacks) or a positive internal event (e.g., a change in management philosophy from a hierarchical model to a team model). The likelihood of success is greater in those cases when the precipitating event was the release of internal barriers (in Lewinian terms, a decrease of restraining forces) rather than an overwhelming external or internal mandate (in Lewinian terms, an increase of driving forces).

Organizational culture is another factor to be considered in successful change projects, a phenomenon discussed by Lewin (group learning is more powerful than individual learning in behavior changes), Schein (effect of shared learning on group members), Kanter (innovative organizations had a culture which rewarded change), and Blanchard and Blackwood (culture as shared values and beliefs). Closely linked to organizational culture and another theoretical base which is said to impact change is the model of organizational learning. Argyris and Schon described the organizational learning process as one in which the individual employees were "learning agents" who fed back what they learned into the corporate memory. Building on Argyris and Schon, Peter Senge called for learning organizations which are

systems constantly in a learning mode as a group. Barrow integrated Total Quality Management and organizational learning as approaches for process and systems improvement.

Discussion of the literature on the specifics of Total Quality Management followed the historical development of the quality movement from the corporate sector to the educational arena. The principles of the three quality movement leaders (Deming, Juran, and Crosby) were reviewed; it was noted that their philosophies were similar although their specific approaches to quality differed somewhat.

Several authors were cited who pointed out the similarities and differences between business and education in terms of the use of TQM. Although many of the external forces prompting adoption of quality programs are similar for business and education, the internal structure and mission unique to the two arenas need to be kept in mind. Several writers noted that quality improvement in education is more complex than in corporate settings because education does not have an easily defined, easily measured product. Additionally, higher education has had an organizational culture much different than that of the corporate world. Many of the authors on adoption of TQM in higher education observed the complex, long-term nature of such a process and the need for any educational organization contemplating such a project to be willing to change its organizational culture. The two biggest challenges seemed to be for senior administrators to be willing to relinquish direct control and for faculty to re-think their role as teachers/leaders to that of teachers/facilitators. There was consensus among the authorities reviewed that Total Quality Management had a great deal of

potential for improvement in higher education if properly implemented and given sufficient time.

A corollary of studying the adoption of Total Quality Management in an institution of higher education is the applicability of qualitative research for such a study. Two of the characteristics of the study which lead to this conclusion are (a) the qualitative nature of the measurement of organizational culture and change process and (b) the qualitative research tools used in TQM (i.e., use of focus groups to measure customer expectations and satisfaction).